BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

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Order Instituting Rulemaking Regarding Policies, Procedures and Rules for the California Solar Initiative, the Self-Generation Incentive Program And Other Distributed Generation Issues.	Rulemaking 12-11-005 (Filed November 8, 2012)

PETITION OF POWERTREE SERVICES, INC. FOR MODIFICATION OF DECISION 16-06-055 REVISING THE SELF-GENERATION INCENTIVE PROGRAM PURSUANT TO SENATE BILL 861, ASSEMBLY BILL 1478, AND IMPLEMENTING OTHER CHANGES

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November 4, 2016

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OF THE STATE OF CALIFORNIA

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Pursuant to the Rules of Practice and Procedure of the California Public Utilities Commission ("Commission") Powertree Services, Inc. ("Powertree") hereby submits this *Petition of Powertree Services, Inc. for Modification of Decision 16-06-055 Revising the Self-Generation Incentive Program Pursuant to Senate Bill 861, Assembly Bill 1478, and Implementing Other Changes* ("Petition for Modification").

I. INTRODUCTION.

Powertree's Petition for Modification asks the Commission to modify D.16-06-055[1] to direct Pacific Gas and Electric Company ("PG&E") to grant extensions of Self-Generation Incentive Program ("SGIP") completion and payment deadlines for Powertree's SGIP Projects for so long as Powertree continues its sustained diligent efforts to fund and undertake reasonable development activity to overcome extraordinary barriers to completion and payment that are

[1] *Decision Revising the Self-Generation Incentive Program Pursuant to Senate Bill 861, Assembly Bill 1478, and Implementing Other Changes*, D.16-06-055, issued June 3, 2016.

determined by the Commission's Energy Division to have been beyond Powertree's control.[2] It has very recently become clear in the Energy Divisions direct supervision and monthly reporting and meetings ordered by the Commission in D.16-06-055 that the root cause of the disputes between Powertree and PG&E resulting in extended delays is a long standing conflict in PG&E's compliance with and administration of Electric Tariff Rule 15 and Rule 16 regarding the sizing of "service drops", or wiring, because the drops are *typically* undersized significantly when compared to the service capacity of the service panel installed on the property of PG&E's customers. Not only does PG&E's policy and practice create a safety hazard of potential overload if the property's service is used to its rated capacity, but it complicates and confuses the interconnection review and approval process adding time and cost that interfere with State goals for deployment of distributed energy resources energy storage, electric vehicles, and renewable generation technologies.

PG&E's conflation of line extension an upgrade rules with generation and energy storage interconnection requirements is especially important in that it has been increasingly apparent for several years that the time limits for SGIP project completion and payment allowed by the Commission's decisions implementing the SGIP are structurally at odds with state and federal legal and regulatory requirements for interconnecting SGIP projects to the local electric distribution systems of all of California's electric utilities.[3] It is also becoming obvious only now

[2] Powertree's specific recommended modifications to D.16-06-055 to effectuate approval of this Petition for Modification are attached as Attachment A. Facts and circumstances justifying Commission approval of this Petition for Modification are described in detail in the Declaration of Stacey Reineccius attached as Attachment B. A Whitepaper discussing the policy implications of undersizing wiring interconnected with property of PG&E's customers is attached as Attachment C.

[3] *See, e.g., Comments of Powertree Services, Inc. on the Administrative Law Judge's Ruling Noticing Workshops Jointly Led by the California Independent System Operator and the California Public Utilities Commission and Setting a Comment Schedule*, filed May 13, 2016, in R.15-03-001, *Order Instituting Rulemaking to consider policy and Implementation refinements to the Energy Storage Procurement Framework and Design Program (D.13-10-040, D.14-10-045) and related Action Plan of the California Energy Storage Roadmap*, filed March 26, 2015.

that design and operation of PG&E's local electric distribution system systematically and perversely undersize utility wiring and local infrastructure required to safely and efficiently interconnect many kinds of customer sited energy storage, electric vehicle and renewable generation projects – including Powertree's SGIP projects.[4]

Powertree recommends that the Commission reverse the de facto presumption that SGIP project developers are laggards needing threat of reservation cancellation, and replace it with a requirement to demonstrate diligent SGIP project development progress, subject to direct supervision by the Commission's Energy Division. The Commission should take the opportunity presented by this Petition for Modification to re-think the discredited policy logic for imposing arbitrary SGIP project development time limits that bear no rational relationship to the increasing technical and regulatory complexity of customer-sited renewable generation and advanced energy storage systems that support the grid, and reduce greenhouse gas ("GHG") emissions. Empowering the Commission's Energy Division to directly supervise PG&E's administration of Powertree's SGIP projects for so long as reasonable sustained project development is taking place would further the goals of the SGIP, and at the same time bring into focus a major policy disconnect between SGIP and interconnection approval timeframes that cries out to be addressed as expeditiously as possible.

Powertree further recommends that the Commission order jurisdictional utilities to participate in an audit of administration of electric utility line extension and upgrade requirements (Rule 15 and Rule 16) in relation to generation and advanced energy storage interconnection requirements (Rule 21 and Wholesale Distribution tariffs). A long running fundamental disagreement between Powertree and PG&E that has been part and parcel of the interconnection-related delays that have plagued Powertree's SGIP projects all along has been

[4] *See*, discussion at Section 3, below, and Attachment C to this Petition for Modification.

the interplay between interconnection rules *per se*, and how line extension and upgrade rules should instead apply to properly analyzed integrated PV generation, advanced energy storage and electric vehicle charging components of Powertree's SGIP projects. As described in the *Declaration of Stacey Reineccius*, attached as Attachment B, PG&E has only recently acknowledged for the first time that its analysis has been conducted inappropriately in the wrong sequence to Powertree's catastrophic detriment since 2012.[5] The Commission can and should accept Powertree's primary recommendation regarding proof of sustained SGIP project development progress, but the Commission should also go much further by directing an audit to determine the scope and impact on public safety and fair and reasonable cost allocation on a statewide basis described in the Whitepaper, attached as Attachment C to this Petition for Modification.[6]

II. THE COMMISSION SHOULD MODIFY D.16-06-055 TO DIRECT PACIFIC GAS AND ELECTRIC COMPANY TO EXTEND COMPLETION AND PAYMENT DEADLINES FOR POWERTREE'S SELF –GENERATION INCENTIVE PROJECTS FOR SO LONG AS POWERTREE CONTINUES DILIGENT EFFORTS TO OVERCOME SUBSTANTIAL BARRIERS TO COMPLETION THAT ARE BEYOND ITS CONTROL, AS DETERMINED BY THE COMMISSION'S ENERGY DIVISION.

Unfortunately, the concern that Powertree has consistently expressed in this docket regarding PG&E's unwillingness to treat processing of Powertree's SGIP projects as anything other than "business as usual", has become a reality. In D.16-06-055, the Commission specifically stated:

> "*Because we are concerned about the sluggish progress on these projects to date*, we will order PG&E to submit monthly progress reports on the status of

[5] The maximum load of an energy storage system coupled to a customer's electricity service should take analytic priority over the customer's load in assigning cost responsibility for "common treatment" under Rule 15 and Rule 16.

[6] *Powertree Infrastructure Underbuild Safety Hazard and Cost Allocation White Paper*, November 4, 2016.

> the Powertree projects to Energy Division and the assigned Commissioner of R.12-11-005 or a successor proceeding. PG&E shall consult with Energy Division regarding the contents of the progress reports. The first report shall be due July 1, 2016 with subsequent reports due on the first of each month or the first business day thereafter. The final report shall be due December 1, 2016 [Emphasis added]." (pp. 59-60).

While it is true that PG&E has seemingly followed the letter of D.16-06-155, including the language of Ordering Paragraph 14,[7] the simple fact is that nothing has changed, apart from PG&E's very recent grudging concession that it has been analyzing Powertree's SGIP projects inappropriately since 2012.[8] Worse, while agreeing to conduct appropriate load analysis, PG&E is requiring Powertree to go back to square one and re-navigate the entire interconnection process over an indeterminate time frame that will - at a minimum - take more than a year and cost Powertree millions of dollars if not corrected.

[7] "PG&E shall submit monthly progress reports on the status of the Powertree projects *to Energy Division and the assigned Commissioner* of Rulemaking 12-11-005 or any successor proceeding. PG&E shall consult with Energy Division regarding the contents of the progress reports. The first report shall be due July 1, 2016 with subsequent reports due on the first each month or the first business day thereafter. The final report shall be due December 1, 2016 [Emphasis added]." (p. 86).

[8] See, footnote 3, infra, "Energy storage when used to provide demand reduction or grid demand avoidance is being analyzed in an inappropriate order resulting in much higher and inappropriate costs. For example, a load of say 200 Amps is present that is being reduced by a storage unit capable of 200 Amps in moderate duration releases (load levelling, EV charging, etc.). The energy storage charges at a time when the load is either low or not present. The energy storage is programmed to always prioritize delivery of service to the supported load. Inconsistent analysis from Utility to Utility can have one utility indicating the required service capacity to be either 200 Amps or as much as 400 Amps for the identical system. This is then compounded when the service panel of a property is sufficiently capable to serve one load but is then assessed by the improper maximum load to require a customer initiated upgrade. The cost differential can be in six figures between these configurations. Setting that the energy storage gives priority to the load and that the maximum load of the storage coupled to service takes priority in assigning cost responsibility for common treatment under Rule 15 or 16 or Rule 2 needs to be clarified." (pp. 8-9).

III. THE COMMISSION SHOULD DIRECT CALIFORNIA'S ELECTRIC UTILITIES TO PARTICIPATE IN AN AUDIT OF ADMINISTRATION OF ELECTRIC UTILITY LINE EXTENSION AND UPGRADE REQUIREMENTS IN RELATION TO GENERATION AND ADVANCED ENERGY STORAGE INTERCONNECTION REQUIREMENTS.

As described in detail in Attachment B, it appears that PG&E has systematically underbuilt its local electric distribution system and customer interconnection lines and equipment level lines needed to interconnect Powertree's SGIP projects. While the public policy implications of this presumably verifiable scenario extend far beyond Powertree's SGIP projects, the facts and circumstances that give rise to such an unfortunate conclusion have come to light as Powertree and PG&E have painstakingly advanced the developed of Powertree's SGIP projects that are the subject of this Petition for Modification. As discussed above, the fact is that it took from 2012 until today to get to the bottom of the true relationship between Rule 21 and WDAT interconnection tariffs, on the one hand, and Rule 15 and Rule 16 line extension and upgrade tariff rules, on the other hand, as they relate to Powertree's SGIP projects. The upshot is that Powertree respectfully recommend that the Commission should direct California's electric utilities to participate in an audit now, before underbuilding swings into the critical path of state policy promoting growth of distributed energy resources and electric vehicle charging infrastructure writ large.

IV. CONCLUSION.

For the reasons discussed herein, Powertree requests that the Commission promptly grant this Petition and modify D.16-06-055 as described herein.

Respectfully submitted,

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Counsel for
POWERTREE SERVICES, INC.

November 4, 2016

ATTACHMENT A

REVISIONS TO DISCUSSION

Discussion, page 59:

~~Rather than the indefinite extension requested by Powertree, we will grant Powertree an extension until the end of 2016. Powertree must complete its projects and submit final incentive claim forms by December 30, 2016 or lose its reservations.~~

REVISIONS TO FINDINGS OF FACT

Findings of Fact, page 72:

59. The combination of services that Powertree hopes to provide has presented challenges related to metering configurations and the accounting of various streams of retail and wholesale energy transactions and, as such, some additional extension is warranted for Powertree's SGIP applications ~~– until the end of 2016. Powertree must complete its projects and submit final incentive claim forms by December 30, 2016 or lose its reservations.~~

REVISIONS TO CONCLUSIONS OF LAW

Conclusions of Law, page 81:

~~57. Under the adopted extension for Powertree, Powertree must complete its projects and submit final incentive claim forms by December 30, 2016 or lose its reservations.~~ Pacific Gas and Electric Company must extend completion and payment deadlines for Powertree's Projects for so long as Powertree continues diligent efforts to overcome substantial barriers to completion that are beyond its control, as determined by the Commission's Energy Division.

REVISIONS TO ORDERING PARAGRAPHS

Conclusions of Law, page 86:

14. PG&E shall submit monthly progress reports on the status of the Powertree projects to Energy Division and the assigned Commissioner of Rulemaking 12-11-005 or any successor proceeding. PG&E shall consult with Energy Division regarding the contents of the progress reports. The first report shall be due July 1, 2016 with subsequent reports due on the first each month or the first business day thereafter. ~~The final report shall be due December 1, 2016,~~ for so long as Powertree continues diligent efforts to overcome substantial barriers to completion that are beyond its control, as determined by the Commission's Energy Division.

ATTACHMENT B

DECLARATION OF STACEY REINECCIUS

1. My name is Stacey Reineccius. I am CEO of Powertree Services Inc. ("Powertree"). Our business address is 3150 – 18th Street, Suite 414, San Francisco, CA 94110.

2. The purpose of this declaration is to provide direct evidence in support of Powertree's Petition for Modification and Motion for Stay.

3. In September 2012, Powertree submitted 68 applications for SGIP reservations to PG&E for the customer-sited projects making up its "Powertree San Francisco One" project.

4. Powertree's project sites, each consisting of integrated PV solar generation, advanced battery storage and electric vehicle charging stations, are all located in Urban Multi-Unit Dwellings, a market segment known to be underserved by utility incentive programs.

5. Because the configuration of Powertree's projects include technical and legal-regulatory elements that were novel in 2012, PG&E required more time than the standard SGIP time limit of 18 months to process Powertree's applications for SGIP reservations. PG&E required that only two sites be completed to create a review template, and promised rapid completion of the balance after the first two – 361-14th St and 200 Rose Street - were selected as the initial sites. Review of the balance of the sites was placed on hold by PG&E.

6. In November 2013 and again in January 2014, Powertree requested and PG&E granted additional six month extensions of time for PG&E to approve Powertree's SGIP reservations.

7. In July 2014, Powertree sent a data request to PG&E for consolidated "whole building" electricity load, or usage, history for the Powertree project sites to aid in the proper final design, equipment selection, and scheduling of installation work for each project site. This was promised to Powertree on multiple occasions and was the subject of weekly progress meetings.

8. Because no "whole building" load history was in fact supplied by PG&E for many months, Powertree was required to proceed based on the best information available, with the assurance that rapid resolution of any questions or issues would be facilitated by PG&E when the data could be provided.

9. In September 2014, all of Powertree's required interconnection applications were submitted and deemed complete, and PG&E granted indefinite extensions of completion deadlines for all of Powertree's SGIP reservations.

10. In October 2014, completed initial reviews by PG&E arrived showing "pass" on the project sites and designs. However, discrepancies in proposed upgrade requirements and associated costs started to appear due to assumptions about customer's load requirements and PG&E's analysis procedure.

11. In January 2015, Powertree was informed by personnel from PG&E's Field Service group of the necessary procedure for establishing whole building load data, and Powertree immediately began a comprehensive data recording and load measurement program across all of Powertree's SGIP project sites.

12. In March 2015, Powertree was told that PG&E would not fulfill Powertree's long outstanding information request for Whole Building Data, and that the data could not be provided until 2017.

13. In May 2015, after initial data collected by Powertree, based on the sizing procedures provided by PG&E, returned from the sizing and logging procedures, it became clear that there were significant discrepancies in the estimation assumptions PG&E was using that were resulting in upgrade cost estimates ranging from $35,000 to $120,000 per site at the same time that Powertree's data logging results showed that costs of no more than $6,000 per site should be required.

14. PG&E subsequently "deemed" a number of Powertree's SGIP projects withdrawn and required that they be re-submitted under a modified procedure once complete information for all project sites was collected and verified by an independent Professional Engineer.

15. In September 2015, after discussion with PG&E and presentation to the rest of the SGIP Program Administrators meeting as a group, PG&E granted additional SGIP schedule extensions for all of Powertree's projects in progress until March 1, 2016, because they were delayed for reasons beyond Powertree's control including the earlier requirement by PG&E to proceed with only two projects initially and to wait for those to be completed before moving forward on the balance and the impact this delay had relative to the requirements of applicable interconnection tariff timelines

16. Powertree continued installations and progress with submission of final load study results in compliance with PG&E designated procedures while concurrently continuing work on its SGIP project sites.

17. By January 2016, Powertree had 47 of 58 PV Solar arrays in place, 55 EV chargers in place in 53 locations, 20 battery chassis assembled or in place awaiting final interconnect and two fully installed with permission to operate received locations, 26 SGIAs either signed or in process and all 58 sites with data logging completed. Many of these SGIAs were later unilaterally cancelled by PG&E due to disputes over cost assessments. In the period prior to January 2016 property owners cancelled participation in 10 sites due to extended delays. The SGIP reservations for these 10 cancelled sites were withdrawn by Powertree.

18. Between January and February 2016, Powertree re-submitted 22 applications as directed by PG&E. Powertree was notified shortly thereafter by PG&E's Customer Service and Delivery Manager assigned at the time that he was putting these applications on hold due to duplicate applications received from within PG&E and that he wanted to meet to identify and remove the duplicates. Powertree agreed but no meeting date was confirmed from PG&E until August 2016, despite repeated follow up and requests by Powertree to hold this meeting. At the meeting a new manager was present who refused to review the projects, as was understood to be

the intent of the meeting, and instead required a re-confirmation from Powertree's property hosts that Powertree had authority to proceed before the duplication review could be done. This authority was re-confirmed within three days. Since that time no further review of these applications has been completed by PG&E.

19. In February 2016, Powertree filed a Petition for Modification with the California Public Utilities Commission that would allow Powertree time to complete its Projects before the SGIP reservations were due to expire and asked that PG&E be stayed from altering the status quo until the Commission could consider Powertree's Petition for Modification.

20. The Commission granted Powertree's request for a stay, and the Commission subsequently granted the Petition for Modification giving Powertree through the end of 2016 to complete all of Powertree's SGIP projects and receive payment of funds held in reserve by PG&E.

21. Since June 2016, Powertree and PG&E have met and reported progress to the Commission's Energy Division monthly, as required by the Commission's decision granting Powertree's Petition for Modification.

22. In July 2016, PG&E informed Powertree that almost all of Powertree's projects would be re-evaluated under rules governing electric power line extensions and upgrades, and Powertree would have to start the entire interconnection review and approval process over again.

23. On August 10, 2016 after reviews and requirements for additional verification of authority to proceed by PG&E, Powertree submitted five projects to pre-assessment per PG&Es required procedure with the revised Single Line Drawings as discussed with PG&E. These were submitted with the understanding that they would be expedited and act as "models" for further re-submissions.

24. In September 2016 at the joint meeting held at the direction of the Commission, PG&E, confirmed that by PG&E's standard policy that it typically under builds the initial wire size of service drops to buildings in order to save money despite the fact that service panels inside buildings are rated for higher current capacity than PG&E configures the drops to deliver.

25. On October 14, 2016 PG&E notified Powertree that the initial load pre-assessments had been completed and that all five of the projects would require conductor upgrades and that all of the site upgrades would be covered under Rule 16. This matched Powertree's long standing position on the proper analysis methodology.

26. By October, 2016, Powertree had designed, manufactured, ordered, and assembled requisite physical materials and software to install in the contracted sites along with the supporting surveys and related engineering for the work on each site and had spent in excess of $8 million of its own funds and funds advanced to Powertree by private investors and lenders relying upon the good faith of PG&E to pay SGIP claims and with the expectation that PG&E would act expeditiously to interconnect Powertree's SGIP projects as directed by the Commission before the end of 2016.

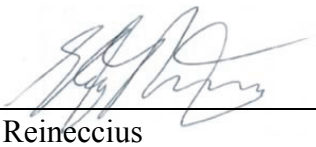
27.

28. In the scheduled meeting with the Commission's Energy Division staff and PG&E on October 27, 2016, when asked for the effective timeline for completion of Powertree's projects now that Load Pre-Assessment had been performed on five projects, PG&E indicated that the completion of the interconnection of Powertree's projects from that point forward, due to the expected requirement for conductor upgrades in every case, would take PG&E until Q4 2017 for those projects and additional projects would be done in Q1- 2018, *at the earliest,* to complete, assuming no PG&E staffing, weather or emergency events were to occur.

29. Powertree has been compelled by PG&E to file a second Petition for Modification and request for stay order with the Commission because PG&E (i) has not complied with the Commissions direction given in June, (ii) has instead completely changed its approach to processing Powertree's SGIP reservations, and (iii) is unable to provide any credible schedule to complete the process that has been delayed for numerous reasons beyond Powertree's control since 2012.

I hereby affirm, under penalty of perjury, that the information provided in this declaration is true and correct to the best of my knowledge and belief.

Dated this 4th day of November 2016, at San Francisco, California.



Stacey Reineccius

ATTACHMENT C

Powertree Infrastructure Underbuild Safety Hazard and Barrier to Electric Vehicle Deployment Whitepaper

Author: Stacey Reineccius, CEO, Powertree Services Inc. November 4, 2016

Summary:

Based on survey data collected from dozens of multi-family and mixed use commercial properties in the City of San Francisco there appears to be a significant risk to property and persons from the systematic undersizing of electrical conductors on the utility side of a service delivery "drop" when compared to the capacity to draw power by the property's existing service panel. Such undersizing by PG&E appears to be the result of a deliberate policy, not direction from the California Public Utilities Commission or other regulatory authority, implemented in conflict with existing electric rules governing line extensions and upgrades.

When installing electric vehicle charging infrastructure, or other new electric loads within existing service panel sizes, this under sizing requires utility site work to upgrade, which creates a potential delay of a year or more for PG&E to provide the service capacity needed to serve the existing service panel.

This service delivery drop is the connection point between the electrical component owned by a property owner and PG&E's distribution system.

The following image are examples of this undersizing clearly showing smaller wires from the PG&E distribution system than are provided from the property's attachment point:

A sample mixed use service

Sample multi-tenant commercial

The distribution infrastructure is currently underbuilt at the point of distribution drops to the property and a significant mismatch exists between the existing operating service panels existing capacity at the property and the actual current capacity of the wires "dropped" to the property due to undersizing of and lower conductivity materials used in PG&E provided the wiring.

Certified Professional Engineers have reviewed survey data logging of dozens of separate properties in a concurrent time frame show this undersizing to be VERY common and that the delivery capacity of the typical drop to larger facilities such as MUDs to be appx. 1/3 or less of the rated service panel capacity.

In the survey, this undersizing was true for 100% of properties with existing service panels of 400 amps of rated capacity or larger.

Undersizing presents two issues: Safety and Cost Allocation

Safety: It is possible for property sites and potential electric vehicle charging service providers to build out charging capacity based on service panel size and logging of usage without notifying PG&E as there is no notification requirement if a modification or load addition is within the currently rated panel capacity, *i.e.,* a change within the service panel size is not "a material change" (as opposed to the distribution line capacity which is not rated or posted by PG&E).

For example: A 21 unit apartment building in San Francisco in the survey has between a 7KW (summer) and 11KW (winter) peak load with a service panel capacity of 96KW. A SINGLE current 2016 model year electric vehicle has a power draw for 2+ hours of 7.4KW to 19.2KW. *In other words, a single vehicle can draw equal to or more than the current power of the entire apartment building*. As electric vehicle penetration reaches 10% to 50%, as expected under current CARB requirements, this will be an even more significant increase in onsite load yet the load will still be within the capacity of the current service panels in most cases but NOT within the capacity of the undersized wires installed by PG&E.

This can result in an overload of PG&E wires if the wires do not meet the capacity of the active service panel that PG&E is obligated to serve. Such overloads have not yet been commonly acknowledged (investigation is needed to see if this has been the cause of any fires or injuries) most likely due to the generally decreasing loads due to constant improvements in energy efficiency standards. However, as new loads from air conditioning, electric vehicles and other similar long duration high power devices penetrate the market, it will be highly probable that concurrent utilization can, and will, overload PG&E utility line drops. These overloads can lead to risk of fire and bodily injury from electrocution if wires were to melt free over sidewalks or near other flammable materials. Such incidents are common causes of forest fires when electric utility lines overheat.

Cases have been found of this issue: Consultation with the City of San Francisco's Department of the Environment and City of San Francisco Building Department has indicated that, on a regular basis, this exact issue is being encountered in the City of San Francisco by the City's building inspectors. This indicates that this not a hypothetical issue.

Cost Allocation: Electric vehicle charging infrastructure that triggers service drop upgrades erects a potentially significant cost barrier. If the infrastructure has been widely under built, as it seems to have been, then there exists a significant cost assignment issue as upgrades to the conductors to build up to the EXISTING panel size could be costly in time and labor. If those costs, which should have already been paid when a service panel was installed, are assigned to the individual property owner or electric vehicle charging service provider then the effective cost to the electric vehicle driver will be much higher. Such costs can eliminate the potential cost-effectiveness of installing charging services and equipment for electric vehicles which are expected to reach 50% of all new vehicles by 2030 in California.

Cost Assignment: Overcharging of Property Owners and Electric Rules 2, 15 and 16:

PG&E is allowed under Electric Rule 15 to reduce the capacity of allocated facilities to a given customer AFTER the Service has been built and is running for at least 18 months. At such time, if the utility chooses, it may downgrade the allocated transformer capacity to actual load so as to make most cost-effective use of the higher voltage distribution lines and the transformers. This a relatively easy procedure as the utility can merely attach more load drops to a single line from a transformer.

This does NOT appear to have been the approach of PG&E as it is non-economic to downgrade already installed wires from the distribution line (POST transformer). Therefore, the existence of undersized wires means a deliberate policy decision has been made on the part of PG&E to pre-emptively assume a lower load than the service panel in the property can serve AND that there will not be load growth that might exceed the wiring PG&E has decided to deploy. In this case it appears that the tariff requirements for timeliness and actual performance have been ignored systematically in order to save on the relatively minor cost of the drop wire being somewhat larger.

Further, it is unclear what the cost allocation or treatment for the initial installation is. Was it charged for the full capacity of the service panel and underbuilt vs the charge? Was it underbuilt and charged proportionally? Was it underbuilt and charged into the rate base at full capacity?

Yet further, upon the actual installation of a load increase such as that from electric vehicle charging, PG&E often allocates such upgrade, even without an increase in the existing service panel, as a customer induced upgrade subject to Rule 2 (customer pays) whereas the customer has the right to service of their EXISTING panel to its capacity without further cost.

In addition to the above-mentioned fire and electrical safety risk, this represents an additional cost burden and the need for additional load assessment slows the rate of deployment of state goals for electric vehicle charging and electric vehicle adoption as well as raising the operating costs of any adoption.

A possible resolution would be that PG&E should be directed CLEARLY that:

(i) Conductor and transformer upgrades should be covered under Rule 16 to the size of the existing service customer service panel.

(ii) Customers who were charged for upgrades within the capacity of the their service panels should be refunded the upgrade charges for any upgrades which would otherwise have been appropriate under Rule 16.

(iii) Active service panel size data be maintained in a publically accessible fashion and checked as part of normal interconnection to assure compliance and electronically accessible for review and update by customers as well as utility and regulatory staff.

(iv) Pre-emptive conductor size reduction not be done and that otherwise applicable rule 15 facility re-allocation and reduction is permissible.

(v) Time logs, worksheets and clear accounting of work done be provided to customers in the case of upgrades and interconnection work.